RANCHO SANTA ANA BOTANIC GARDEN
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FRAXINUS DIPETALA

FLOWERING ASH

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

Number 67 April 14, 1944

FRAXINUS DIPETALA
FLOWERING ASH

Oleaceae Olive Family

A slender, deciduous tree or shrub, rarely over 20 ft. high, the gray-barked trunk or main branches seldom over 4-6 in. in diam.; small branches 4-sided. Herbage essentially glabrous; leaves opposite, compound, 3-6 in. long; leaflets 5-9, short petiolulate or sessile, usually ovate, thin, serrate, dark green above, lighter beneath, ½-1½ in. long (rarely 2 in. long), appearing in March, shed in November. Flowers perfect, borne in showy, compound panicles 3-6 in. long, appearing with the leaves from buds at leaf scars of previous season; pedicels green, about ¼ in. long; calyx green, about ⅛ in. high, with 4-6 low teeth or lobes; petals 2, white, about 3/16 in. long; stamens 2, alternate with petals; anthers nearly as long as petals, 2-celled; ovary 2-celled, with an enlarged 2-lobed stigma. Fruit a samara (an indehiscent, winged fruit), oblong, ¾-1¼ in. long, usually less than ½ in. wide, wing usually notched at tip, body of fruit not conspicuously thickened at base. In germination the cotyledons appear above ground, are short-petioled, entire, ovate, ¾-1 in. long; next several pairs of leaves are simple, toothed and petioled; a long taproot is produced early. Flowers in March and April; fruits from July to September, but often remaining on the trees for several months.

The genus *Fraxinus* (ancient Latin name of the Ash) consists of about 40 species widely distributed in Europe, Asia and North America. About 18 species are known from North America, exclusive of Mexico, of which 4 are found in California. Many species are highly valued for their hard wood and as shade trees. *F. americana* (White Ash) is a large tree found from Canada south to Texas and Florida, and is said to be the most valuable American species for timber. On the Pacific Coast *F. oregona* is considered the most valuable of all deciduous timber trees. Recently a local company tested numerous California native species in the Garden's plantings in an effort to find a suitable source of wood for artists' charcoal, and found that the suckers of *F. coriacea* met its requirements. *F. dipetala* is only of interest as a small ornamental tree.

Fraxinus dipetala (Latin meaning two-petaled) was described in 1841 by Hooker and Arnott (famous English botanists) based upon specimens collected by David Douglas. The exact source of Douglas's specimens was not indicated, but they could have been collected almost anywhere between Sonoma and Santa Barbara. *F. dipetala* is an interesting member of the chaparral-covered hillsides and canyons of the Upper Sonoran Life Zone of the Coast Ranges from Siskiyou Co. to Baja California, and in the Sierra Nevada foothills as far south as Tulare Co. Unlike *F. oregona* and *coriacea,* which grow in many of the same regions, *F. dipetala* is not restricted to habitats near water. It forms only a small percentage of the woody vegetation, yet when in flower

in early spring brightens whole hillsides with its profuse panicles of dainty white flowers, borne against a background of fresh green leaves.

A closely related plant of Baja California has trifoliate or simple leaves and is called *F. dipetala* variety *trifoliata.* A related species of Arizona is *F. macropetala,* which also has flowers with petals. Most other species of *Fraxinus* are apetalous.

Propagation of *F. dipetala* is readily accomplished from seeds planted in flats or in seed beds, preferably in the fall. When only a few plants are desired, it is probably better to pot off the seedlings and grow them to planting size in gallon cans, but it is simpler to grow the seedlings in beds, thinning if necessary, and digging the one-year-old seedlings when dormant in winter. By this method excellent roots are obtained and handling bare-root plants is less work than those in containers.

Our oldest plantings of *F. dipetala* are now 15 years old and were grown from seeds collected in the Santa Ana Mts. in 1927. Some of these are now 20 ft. high. Another large lot was grown from seeds collected in September, 1934. These were planted out in several places in the Garden, but mainly on north slopes or partially shaded locations. Some of the best of these are now about 16-18 ft. high, have trunks 4 in. in diam., and have been blooming for several years. Others, of this same lot, planted in hot, sunny locations are not over 3 ft. high. Little or no irrigation is given those plants on north slopes, but where they have received some irrigation, they have responded with better growth and do not appear to be likely to die as a result, even in heavy adobe soils.

F. dipetala is a useful ornamental for planting in California wild gardens, on north slopes or similar spots where a deciduous, small tree is desired. Its slender growth, maximum height of around 20 ft., clean, green foliage and profusion of delicate white flowers are its good features. The latter give just a suggestion of white Lilac flowers, which are also in the Olive family.

The common name Flowering Ash is in reference to the fact that this species has flowers with petals. It is also called Foothill Ash. Fresno is the Spanish name for it and other species of *Fraxinus.* The Mountain-Ash is the genus *Sorbus,* a member of the Rose family and should not be confused with *Fraxinus.*

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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